

and *vancouverensis*, and in the *picatus* series there is individual variation tending to bridge the gap in either direction. The indentation in the orbital arch, given by Osgood as a feature distinguishing *petulans* from *vancouverensis*, is not a character to be absolutely relied upon. This little notch is sharply indicated in the *petulans* series, as I believe it is in the red squirrels of the interior of the northwest generally. In the Vancouver Island skulls at hand there are none in which it is at all deeply cut. In some it is entirely absent, but usually there is a suggestion of a notch at that point. The southern Alaskan series contains none in which the notch is as nearly eliminated as in most of the Vancouver Island skulls, and as a rule it is as apparent as in the *petulans* series. It is not a character the presence or absence of which can be indicated in each of the skulls; it appears in all degrees from one extreme to the other.

Berkeley, California.

REVISED LIST OF THE SPECIES IN THE GENUS *DIPODOMYS*¹

BY JOSEPH GRINNELL

A bare list of names is a pretty poor offering, not ordinarily worth printing. But in the present revised list enumerating sixty species and subspecies of kangaroo rats a good deal of new information is set forth in a concentrated form. The main basis of this contribution is a relatively extensive systematic and distributional study of the genus as occurring within the limits of California. The more comprehensive report upon this study is likely to be long delayed in the press, if, indeed, it ever sees the light of publication.

The 33 forms now known to occur in this state (California) have been determined upon after examination of a large amount of material, over 2800 skins with skulls. Confidence as to their status is much greater than with most of the remaining forms, of which material has been accessible in only scant amount. Still, first impressions, as gained of the latter, may be worthy of consideration, when gathered upon the basis of the rather intensive study of the other forms.

The "*ordii* group" is accepted practically as revised by Goldman (Proc. Biol. Soc. Washington, vol. 30, 1917, p. 113).

¹ Contribution from the Museum of Vertebrate Zoology of the University of California.

The species are arranged by "groups" from what appears to be the most generalized type to the most specialized. These groups are not at all comparable in rank to the subgenera currently recognized in some other families of rodents; in fact the genus *Dipodomys* as it stands seems to be remarkably compact and homogeneous. Yet the groups indicated do serve to express probably more close genetic relationship among the constituent species of each group than that obtaining between species representing different groups.

HEERMANNI GROUP

Dipodomys heermanni heermanni LeConte
Dipodomys heermanni californicus Merriam
Dipodomys heermanni eximius Grinnell
Dipodomys heermanni tularensis (Merriam)
Dipodomys heermanni dixonii (Grinnell)
Dipodomys heermanni berkeleyensis Grinnell
Dipodomys heermanni goldmani (Merriam)
Dipodomys heermanni jolonensis Grinnell
Dipodomys heermanni swarthi (Grinnell)
Dipodomys morroensis (Merriam)
Dipodomys mohavensis (Grinnell)
Dipodomys leucogenys (Grinnell)
Dipodomys panamintinus (Merriam)
Dipodomys stephensi (Merriam)
Dipodomys ingens (Merriam)

SPECTABILIS GROUP

Dipodomys spectabilis spectabilis Merriam
Dipodomys spectabilis cratodon Merriam
Dipodomys nelsoni Merriam

PHILLIPSII GROUP

Dipodomys phillipsii Gray
Dipodomys perotensis Merriam
Dipodomys ornatus Merriam
Dipodomys elator Merriam

MERRIAM GROUP

Dipodomys merriami merriami Mearns
Dipodomys merriami ambiguus Merriam
Dipodomys merriami atronasus Merriam
Dipodomys merriami parvus Rhoads
Dipodomys merriami simiolus Rhoads
Dipodomys merriami arenivagus Elliot

Dipodomys merriami melanurus Merriam
Dipodomys nitratoides nitratoides Merriam
Dipodomys nitratoides exilis Merriam
Dipodomys nitratoides brevinasus Grinnell
Dipodomys platycephalus Merriam
Dipodomys margaritæ Merriam
Dipodomys insularis Merriam
Dipodomys mitchelli Mearns

ORDII GROUP

Dipodomys ordii ordii Woodhouse
Dipodomys ordii columbianus (Merriam)
Dipodomys ordii monoensis (Grinnell)
Dipodomys ordii utahensis (Merriam)
Dipodomys ordii chapmani Mearns
Dipodomys ordii obscurus (Allen)
Dipodomys ordii montanus Baird
Dipodomys ordii longipes (Merriam)
Dipodomys ordii luteolus (Goldman)
Dipodomys ordii richardsoni (Allen)
Dipodomys ordii palmeri (Allen)

COMPACTUS GROUP

Dipodomys compactus True
Dipodomys sennetti (Allen)

AGILIS GROUP

Dipodomys agilis agilis Gambel
Dipodomys agilis simulans (Merriam)
Dipodomys agilis peninsularis (Merriam)
Dipodomys agilis cabezonæ (Merriam)
Dipodomys agilis perplexus (Merriam)
Dipodomys venustus venustus (Merriam)
Dipodomys venustus sanctiluciæ Grinnell
Dipodomys elephantinus (Grinnell)

MICROPS GROUP

Dipodomys microps (Merriam)
Dipodomys levipes (Merriam)

DESERTI GROUP

Dipodomys deserti Stephens

Certain names which have been bestowed upon kangaroo rats will not be found in the above list for the reason that they are considered by the present reviewer as applying to forms named previously. These synonyms, and their allocations, are as follows:

helleri of Elliot = *deserti* of Stephens
kernensis of Merriam = *merriami* of Mearns
mortivallis of Elliot = *merriami* of Mearns
nevadensis of Merriam = *merriami* of Mearns
nitratulus of Merriam = *merriami* of Mearns
pallidulus of Bangs = *californicus* of Merriam
similis of Rhoads = *simiolus* of Rhoads
streatori of Merriam = *heermanni* of LeConte
trinitatis of Kellogg = *californicus* of Merriam
wagneri of LeConte = *agilis* of Gambel

These cases have been worked out at some pains and are reasonably certain. There are very likely a few names in the main list above that will eventually have to be synonymized also. But on the other hand there are undoubtedly many more good new forms to be named. So that future systematic workers in this interesting genus will find much yet to do.

Berkeley, California.